Study Reveals Mechanisms that Activate Depression

New research at the Icahn School of Medicine at Mount Sinai sheds light for the first time on how depression and emotional resilience operate on a molecular level. The findings, published in the December 4, 2014, issue of Nature, bring fresh perspective to an area that has eluded researchers for decades by outlining the mechanisms within cells that activate depression and laying the groundwork for new treatments. Current drugs for depression focus on neurotransmitters, or communication between cells, but identification of this novel biochemical pathway could pave the way for more effective drugs with very different mechanisms.

The study’s first author, Caroline Dias, an MD/PhD candidate at the Icahn School of Medicine, launched the research as a PhD thesis project. She found that mice became depressed-like when activation levels of the signalling protein beta-catenin (β-Catenin)—located within neurons in the brain’s reward and motivation center—were lowered. Conversely, mice

Enhancing Cardiovascular Care in South Florida

The Mount Sinai Hospital and Jupiter Medical Center, in Jupiter, Florida, recently announced a new partnership that promises to enhance the quality of cardiovascular care in South Florida and throughout the state with the creation of Mount Sinai Heart New York at Jupiter Medical Center. The collaboration encompasses nearly all facets of cardiac care and calls for physicians at both hospitals to share knowledge, experience, best practices, evidence-based medicine, quality protocols, and clinical pathways for improved patient care.

“Medicine should have no boundaries,” says Kenneth L. Davis, MD, President and Chief Executive Officer of the Mount Sinai Health System. “We look forward to sharing Mount Sinai’s expertise in cardiovascular services with Jupiter Medical Center and creating a transformative health care partnership.”

John D. Couris, President and Chief Executive Officer of Jupiter Medical Center, says, “This innovative collaboration with Mount Sinai Heart New York is yet another way we’re delivering unparalleled health care in our own backyard.”

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Mount Sinai Queens Dedicates New Infusion Center

In a ribbon-cutting ceremony attended by hospital leadership, staff, local elected officials, community members, and patients, Mount Sinai Queens officially opened its newly renovated Infusion Center on Friday, February 27, a long-anticipated event that brings cancer expertise and the latest medical treatment directly to the borough.

The Mount Sinai Queens Infusion Center, an extension of The Tisch Cancer Institute at The Mount Sinai Hospital, offers patients a wide range of transfusion services and infusion treatments for cancer, blood diseases, and benign rheumatologic disorders in a comfortable outpatient setting. It is located across the street from the main hospital in Astoria, Queens. The Center’s medical team, trained in medical oncology and hematology at the Icahn School of Medicine at Mount Sinai, can securely share electronic patient records with colleagues throughout the Mount Sinai Health System to provide timely, high-quality care.

Mount Sinai Queens is additionally undergoing a $125 million hospital expansion and modernization project, scheduled to be completed in 2016, which includes a new six-story building adjacent to the main hospital that will house an expanded Emergency Department, new operating suites, an integrated outpatient physician medical practice, and advanced imaging and laboratory services.

“When it comes to providing comprehensive outpatient cancer care, Mount Sinai is second to none, and this newly renovated Center is just the latest example of our commitment to patients and their families during the most difficult fight of their lives,” said Caryn A. Schwab, Executive Director of Mount Sinai Queens, during the dedication ceremony.

At the dedication of the Mount Sinai Queens Infusion Center, from left: Caryn A. Schwab, Executive Director, Mount Sinai Queens; Howard Greenberg, MD, Associate Chief of Hematology and Medical Oncology, Mount Sinai Queens, and Director of the Infusion Center; Luis Isola, MD, Director of Cancer Care Programs, Mount Sinai Health System; and Che-Kai Tsao, MD, Assistant Professor of Medicine (Hematology/Medical Oncology)

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exhibited signs of resilience when b-Catenin levels were increased.

These results were corroborated through post-mortem studies of human brains. People who had been depressed exhibited lower b-Catenin activation compared to nondepressed individuals.

“Identifying this novel biochemical pathway has opened up a whole new avenue of depression-stress research,” says Eric J. Nestler, MD, PhD, Nash Family Professor, Chair of the Department of Neuroscience, and Director of The Friedman Brain Institute at the Icahn School of Medicine at Mount Sinai. “Our molecular findings are very distinct from serotonin and other neurotransmitters previously implicated in depression or resilience against it.”

By using next-generation sequencing technology, the research team was able to trace the activation of b-Catenin to a gene called Dicer1, which plays an important role in making microRNAs, small molecules that control gene expression. In the final phase of research, Jian Feng, PhD, a postdoctoral fellow at the Icahn School of Medicine and the study’s co-lead investigator, identified a group of microRNAs that are regulated by b-Catenin. These microRNAs may prove to be critical in the pro-resilient effects of b-Catenin.

“The study provides a template for many years of research and potential new treatments,” says Dr. Nestler, who is also past President of the American College of Neuropsychopharmacology. “Next, we plan to pursue microRNAs and many of the other targets of b-Catenin. We picked one gene out of 100, and there are many others to study.”

“As in other tissues and organs, we can identify cells that are healthier or sicker,” says Ms. Dias. “It is obviously more complicated in the brain, but instead of focusing on trying to correct what goes wrong in depression, we can perhaps make neurons healthier by targeting the pathways within the cells that naturally mediate resilience.”

Funding for the research was provided by the National Institute of Mental Health and the Hope for Depression Research Foundation.
Annual Gala for Multiple Sclerosis

More than 200 guests enjoyed an evening of cocktails, dinner, dancing, and a performance by Queen of the Night at the 13th Annual Gala to benefit the Corinne Goldsmith Dickinson Center for Multiple Sclerosis, Mount Sinai Health System, held at The Paramount Hotel on Monday, March 9. The event raised nearly $700,000 for the Center, which is renowned for outstanding and comprehensive care and innovative research opportunities for patients.

Promoting Colorectal Cancer Awareness

The Mount Sinai Hospital’s Endoscopy Center hosted a number of events on Wednesday, March 4, to commemorate Colorectal Cancer Awareness Month. Among the activities was the “Rollin’ Colon,” a walk-through, inflatable, educational model of a colon that magnifies the appearance of a human colon—revealing polyps and other symptoms—sponsored by the Colon Cancer Challenge Foundation.

Mount Sinai Queens Dedicates New Infusion Center

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upgraded patient exam rooms, and a patient nutrition area. The updated waiting area has broad bay windows and an open plan interior decorated in soothing earth tones.

“The Infusion Center epitomizes quality care and is an integral part of The Tisch Cancer Institute at Mount Sinai,” said Luis Isola, MD, Director of Cancer Care Programs for the Mount Sinai Health System.

“It also fills a need for the community,” added Howard Greenberg, MD, Associate Chief of Hematology and Medical Oncology, Mount Sinai Queens, and Director of the Infusion Center. “It allows me and my colleagues, including Dr. Che-Kai Tsao, and our expert medical, nursing, and support staff, to provide a level of cancer care usually seen only in tertiary-care hospitals in one easy-to-access location, right here in Queens.” Both Dr. Greenberg and Che-Kai Tsao, MD, are Assistant Professors of Medicine (Hematology/Medical Oncology) at Icahn School of Medicine at Mount Sinai.

Attendees included New York State Senator Michael Gianaris; New York State Assembly Member Aravella Simotas; and New York City Council Members Costa Constantinides and Jimmy Van Bramer, the City Council Majority leader. “Because of Mount Sinai Queens, people in this community no longer have to go through tunnels or cross bridges to receive world-class treatment and care,” said Ms. Simotas.
The partnership calls for both hospitals to collaborate on interventional cardiology, cardiac rehabilitation, electrophysiology, noninvasive imaging, congestive heart failure, wellness and prevention, research, and education.

Physicians at Jupiter Medical Center will have access to clinical consults for their patients with Mount Sinai Beth Israel New York colleagues and use long-distance telehealth technology for patient assessments in real time. In addition, patients at Jupiter Medical Center will have access to the latest clinical trials and advanced cardiac treatment options provided by Mount Sinai Heart New York. For open-heart surgery or other cardiac procedures not routinely performed at Jupiter Medical Center, patients will have coordinated access to physicians and surgeons at Mount Sinai Heart New York.

“Our new partnership with Jupiter Medical Center represents an integral step in providing access and continuity of care for our patients who share a common link and split their time between New York and South Florida,” says Arthur A. Klein, MD, President of the Mount Sinai Health Network. “We look forward to collaborative academic activities and joint program expansion.”

Prior to the partnership, Jupiter Medical Center performed more than 1,000 cardiac procedures each year, according to Gonzalo Loveday, MD, Medical Director of Mount Sinai Heart New York at Jupiter Medical Center. “What is exciting,” he says, “is the fact that this collaboration will allow us access to higher-quality treatments for our community.” Dr. Loveday and members of the interventional cardiology team have visited Mount Sinai Heart in New York and implemented their protocols for patient care.

Central to the partnership is Valentin Fuster, MD, PhD, Richard Gorlin, MD, Heart Research Foundation Professor, Director of Mount Sinai Heart, and Physician-in-Chief of The Mount Sinai Hospital, who is a member of the Institute of Medicine of the National Academy of Sciences where he serves as Chair of the committee on Preventing the Global Epidemic of Cardiovascular Disease.

A past president of the American Heart Association and the World Heart Federation, Dr. Fuster says, “Shared knowledge leads to more powerful medicine. This alliance is a big plus for both of our institutions and will increase the quality of cardiac care for our patients, whether they are in New York or Florida.”
Kidney Coaches Join the Search for Living Donors

Patients waiting for a kidney transplant at the Mount Sinai Health System have a supportive new program to help them: the Kidney Coach program at the Recanati/Miller Transplantation Institute’s (RMTI) Zweig Family Center for Living Donation. The program recruits friends and family members to become coaches who spread the word about their loved one’s dire need for a living donor to improve the chances of finding one.

Living donation has increasingly helped to minimize a national kidney shortage that has created waits of five years or longer for more than 100,000 patients. At Mount Sinai, more than 1,400 patients are on the waiting list. The Kidney Coach program is designed to assist patients in informing friends and family of their need for a live donor transplant.

At Mount Sinai’s Zweig Family Center for Living Donation, the coaches receive training that includes learning how to write letters, host community events, and use social media appropriately.

“We hope the Kidney Coach program stimulates discussion about the advantages of living donor transplants,” says Ron Shapiro, MD, Surgical Director of Kidney/Pancreas Transplantation at RMTI and Professor of Surgery, Icahn School of Medicine at Mount Sinai. “A living donor’s kidney lasts twice as long as one from a deceased donor.”

Dianne LaPointe Rudow, DNP, Director of the Zweig Family Center for Living Donation, says, “It is difficult for patients to ask someone to be a donor. But if they don’t ask, others won’t recognize their urgent need. This is an important step in letting them know they have a strong support system to tap into to help find a living donor.”

April is National Donate Life Month. To learn more about organ donation, visit www.mountsinaiRMTI.org.

National Award Named for Sandra K. Masur, PhD

The American Society for Cell Biology (ASCB) has established a national award honoring Sandra K. Masur, PhD, Professor of Ophthalmology at the Icahn School of Medicine at Mount Sinai, for her distinguished career in research and mentorship. The Sandra K. Masur Senior Leadership Award is the first ASCB award named for a woman and will honor individuals with exemplary achievements in cell biology who also are outstanding mentors.

An accomplished researcher, Dr. Masur joined Mount Sinai in 1968 and has been a proponent of the advancement of women and underrepresented minorities in biomedical sciences. She is the Founding Director of the Office for Women’s Careers at the Icahn School of Medicine at Mount Sinai and has chaired the Women in Cell Biology Committee of the ASCB since 2009.

“Our work in cell biology is truly a collaborative effort,” Dr. Masur says. “I am filled with pride to have my name so closely associated with the ASCB. The Women in Cell Biology Committee is composed of outstanding scientists who are actively engaged in fostering the careers of women and men in cell biology,” says Dr. Masur.

Stefano Bertuzzi, PhD, MPH, Executive Director at the American Society for Cell Biology, says “Dr. Masur’s dedication to women in cell biology and to ASCB has been an exemplar of leadership and volunteer engagement in our society.”

James C. Tsai, MD, MBA, Chair, Department of Ophthalmology, Mount Sinai Health System, and President of New York Eye and Ear Infirmary of Mount Sinai, says, “Winning a lifetime achievement award is impressive, but having the award named after you is at another level entirely. Dr. Masur has been a prolific researcher and mentor throughout her career.”
ICD-10 Town Hall

Staff is invited to join the Program Management Office and project leaders in a Town Hall meeting to discuss updates and the implementation phase of the ICD-10 project.

Tuesday, March 24
1 – 2 pm
The Mount Sinai Hospital Campus
Hess Center Davis Auditorium

EVENT

Grand Rounds / Surgery
Gerard Doherty, MD, Surgeon-in-Chief, Boston Medical Center, and Professor of Medicine, Boston University, presents “Differentiated Thyroid Carcinoma.”

Wednesday, March 25
7:45 – 9 am
The Mount Sinai Hospital Campus
Hatch Auditorium

Grand Rounds / Cardiology
Stephan Danik, MD, Director, Electrophysiology Lab, Mount Sinai St. Luke’s Al-Sabah Arrhythmia Institute, presents “Cardiac Device Malfunction and Infection: When to Watch and When to Intervene.”

Monday, March 30
8 – 9 am
Mount Sinai Beth Israel
Podell Conference Room A

Grand Rounds / Otolaryngology—Head and Neck Surgery
Eric Kezirian, MD, MPH, Professor, Otolaryngology, Keck School of Medicine of USC, presents “Surgical Evaluation and Treatment of Obstructive Sleep Apnea.”

Combined Grand Rounds of New York Eye and Ear Infirmary of Mount Sinai and Mount Sinai Beth Israel

Thursday, April 2
7:30 – 8:30 am
Mount Sinai Beth Israel
Phillips Ambulatory Care Center

Lecture Series / Recanati/Miller Transplantation Institute
Dorry Segev, MD, PhD, Associate Vice Chair for Research, Johns Hopkins Medicine, presents “Geographic Disparities in Liver Transplant.”

Friday, April 17
Noon
The Mount Sinai Hospital Campus
Icahn, Room 4-82

National Donate Life Month

Mount Sinai’s Recanati/Miller Transplantation Institute is sponsoring a campaign during April, National Donate Life Month, to encourage staff and the community to register as organ, eye, and tissue donors and to honor those donors who have helped save lives. Among the activities planned to raise awareness about organ donation on The Mount Sinai Hospital campus are:

TUESDAY, APRIL 7
LiveOnNY Run Around the Central Park Reservoir
Meet: 5:15 pm
Outside 1425 Madison Avenue
Walkers also welcome

WEDNESDAY, APRIL 8
Nursing Grand Rounds
“Organ and Tissue Donation: A Collaborative Effort”
Noon
Hess Center Davis Auditorium

FRIDAY, APRIL 10
Blue and Green Day: Wear the colors of National Donate Life or a promotional T-shirt. Take photos and send them to John.Ambrose@mountsinai.org for Mount Sinai’s Facebook page.

ANNOUNCEMENT

Autism Awareness Month

The Seaver Autism Center for Research and Treatment is sponsoring a number of activities throughout April to commemorate Autism Awareness Month. Stop by informational tables to pick up brochures on autism spectrum disorders, talk to members of the team, and learn more about studies and treatments being offered by the Seaver Autism Center.

Thursdays, April 2, 9, 16, 23, and 30
11 am – 2 pm
The Mount Sinai Hospital Campus
Guggenheim Pavilion
Outside the Plaza Café